

INDEPENDENT NET TASK IDENTIFICATION FOR EFFICIENT PARTITION AND DISTRIBUTION

ABSTRACT OF THE INVENTION

5 A task management system, method and computer program product for
determining optimal placement of task components on multiple machines for task
execution, particularly for placing program components on multiple computers for
distributed processing. First, a communication graph is generated representative of the
computer program with each program unit (e.g., an object) represented as a node in the
graph. Nodes are connected to other nodes by edges representative of communication
10 between connected nodes. A weight is applied to each edge, the weight being a measure
of the level of communication between the connected edges. Terminal nodes
representative of the multiple computers are attached to the communication graph. Then,
the communication graph is divided into independent nets and a min cut is found for each
independent net. The min cut for the communication graph is the combination of the min
cuts for all of the independent nets. Finally, program components which may be a single
15 program unit or an aggregate of units are placed on computers according to the
communication min cut.